

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 6,852,685 B1  
APPLICATION NO. : 09/641802  
DATED : February 8, 2005  
INVENTOR(S) : Boldogh et al.

Page 1 of 9

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the title page, item (56) References Cited, under "U.S. Patent Documents," please add the following document:

--US 2003/0091606 A1 05/15/03 Stanton et al.--;

On the title page, under "Foreign Patent Documents," please add the following documents:

--WO 95/00155 01/05/95--;

--WO 02/13849 02/21/02--;

--WO 02/13850 02/21/02--;

--WO 02/13851 02/21/02--;

On the title page item (56) References Cited, under "Other Publications," Second Column, please delete "Janusz et al. (1987) immunoregulatory Properties of Synthetic" and insert --Janusz et al. (1987) Immunoregulatory Properties of Synthetic--

On the title page, under "Other Publications," second column, please delete "Inglot, Junsz, and Lisowski" and insert --Inglot, Janusz, and Lisowski--

On the title page, under "Other Publications," please add the following publications:  
--Boldogh et al., "Modulation of 4HNE-Mediated Signaling by proline-rich peptides from Ovine Colostrum," *J Mol Neuroscience*, May 2003;20(2): 125-134.--;

--Brown et al., "7-Hydroperoxycholesterol and its products in oxidized low density lipoprotein and human atherosclerotic plaque," *J. Lipid Res*, 1997;38: 1730-1745.--;

--Bruce-Keller et al., "4-Hydroxynonenal, a product of lipid peroxidation, damages cholinergic neurons and impairs visuospatial memory in rats," *J Neuropathol Exp Neurol*, 1998;57: 257-267.--;

--Buettner, G.R., "The pecking order of free radicals and antioxidants: lipid peroxidation, alpha-tocopherol, and ascorbate," *Arch Biochem Biophys*, 1993;300: 535-543.--;

--Cadenas et al., "Mitochondrial free radical generation, oxidative stress, and aging," *Free Radic Biol Med*, 2000;29:222-230.--;

--Camandola et al., "The lipid peroxidation product 4-hydroxy-2,3-nonenal inhibits constitutive and inducible activity of nuclear factor kappa B in neurons," *Brain Res Mol Brain Res*, 2000;85:53-60.--;

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

--Cheng et al., "Effect on mGST A4 transfection on 4-hydroxynonenal-mediated apoptosis and differentiation of K562 human erythroleukemia cells," *Arch Biochem Biophys*, 1999;372: 29-36.--;

--Davies et al., "Photo-oxidation of proteins and its role in cataractogenesis," *J. Photochem. Photobiol B*, 2001;63: 114-125.--;

--Davis et al., "Cellular thiols and reactive oxygen species in drug-induced apoptosis," *J. Pharmacol Exp Ther*, 2001;296: 1-6.--;

--DeZwart et al., "Biomarkers of free radical damage applications in experimental animals and in humans," *Free Radic Biol Med*, 1999; 26:202-226.--;

--Evan et al., "A matter of life and cell death," *Science*, 1998; 281: 1317-1322.--;

--Finkel et al., "Oxidants, oxidative stress and the biology of ageing," *Science*, 1998;281: 1317-1322.--;

--Friguet et al., "Protein degradation by the proteasome and its implications in aging," *Ann N Y Acad Sci*, 2000;908: 143-154.--;

--Gardner et al., "Development of a peptide antibody specific to human glutathione S-transferase alpha 4-4 (hGSTA4-4) reveals preferential localization in human liver mitochondria," *Arch Biochem Biophys*, 2001;390: 19-27.--;

--Hainut et al., "Redox modulation of p53 conformation and sequence-specific DNA binding in vitro," *Cancer Res*, 1993;53: 4469-4473.--;

--Han et al., "Implication of a small GTPase Rac1 in the activation of c-Jun-N-terminal kinase and heat shock factor in response to heat shock," *J Biol Chem*, 2001; 276:1889-1895.--;

--Hughes et al., "Mediation of nerve growth factor-driven cell cycle arrest in PC12 cells by p53. Simultaneous differentiation and proliferation subsequent to p53 functional inactivation," *J Biol Chem*, 2000;275: 37829-37837.--;

--Janusz et al., "Immunoregulatory properties of synthetic peptides, fragments of a proline-rich polypeptide (PRP) from ovine colostrum," *Molecular Immunology*, October 1987;24(10): 1029-1031.--;

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--Keller et al., "Mitochondrial manganese superoxide dismutase prevents neural apoptosis and reduces ischemic brain injury: suppression of peroxynitrite production, lipid peroxidation, and mitochondrial dysfunction," *J Neurosci*, 1998;18: 687-697.--;

--Kong et al., "Signal transduction events elicited by natural products: a role of MAPK and caspase pathways in homeostatic response and induction of apoptosis," *Arch Pharm Res*, 2000;23: 1-16.--;

--Kruman et al., "Evidence that 4-hydroxynonenal mediates oxidative stress-induced neuronal apoptosis," *J Neurosci*, 1997;17:5089-5100.--;

--Lafon-Cazal et al., "Nitric oxide, superoxide and peroxynitrite: putative mediators of NMDA-induced cell death in cerebellar granule cells," *Neuropharmacology*, 1993;32: 1259-1266.--;

--Leonarduzzi et al., "Lipid oxidation products in cell signaling," *Free Radic Biol Med*, 2000;28: 1370-1378.--;

--Ley et al., "Adhesion Molecules in Lymphocyte Trafficking and Colitis," *Gastroenterology*, October 2001;121(4);Editorial:1008-1010.--;

--Mattson et al., "Alzheimer's disease. Short Precursor shortens memory," *Nature*, 1997;387: 457-458.--;

--Nakamura et al., "Redox regulation of cellular activation," *Annu Rev Immunol*, 1997;15: 351-369.--;

--Page et al., "4-Hydroxynonenal prevents NF-kappaB activation and tumor necrosis factor expression by inhibiting IkappaB phosphorylation and subsequent proteolysis," *J Biol Chem*, 1999; 274:11611-11618.--;

--Parola et al., "HNE interacts directly with JNK isoforms in human hepatic stellate cells," *J Clin Invest*, 1998;102:1942-1950.--;

--Perkins et al., "Association of antioxidants with memory in a multiethnic elderly sample using the Third National Health and Nutrition Examination Survey," *Am J Epidemiol*, 1999;150: 37-44.--;

--Perrig et al., "The relation between antioxidants and memory performance in the old and very old," *J Am Geriatr Soc*, 1997;45: 718-724.--;

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

- Poli et al., "4-Hydroxynonenal in the pathomechanisms of oxidative stress," *IUBMB Life*, 2000;50: 315-321.--;
- Rivas-Arancibia et al., "Effects of ozone exposure in rats on memory and levels of brain and pulmonary superoxide dismutase," *Environ Res*, 1998;76: 33-39.--;
- Ross et al., "Atherosclerosis: a cancer of the blood vessels?," *Am J Clin Pathol* 116 Suppl, 2001:S97-107.--;
- Rusnak et al., "Sensing electrons: protein phosphatase redox regulation," *Trends Biochem Sci*, 2000;25: 527-529.--;
- Salmi et al., "Immune Cell Trafficking in Uterus and Early Life is Dominated by the Mucosal Addressin MadCAM-1 in Humans," *Gastroenterology*, October 2001;121(4): 853-864.--;
- Sano et al., "A controlled trial of selegiline, alpha-tocopherol, or both as treatment for Alzheimer's disease," *The Alzheimer's Disease Cooperative Study, N Engl J Med*, 1997;336:1216-1222.--;
- Sayre et al., "4-Hydroxynonenal-derived advanced lipid peroxidation end products are increased in Alzheimer's disease," *J Neurochem*, 1997;68: 2092-2097.--;
- Senft et al., "Determining glutathione and glutathione disulfide using the fluorescence probe o-phthalaldehyde," *Anal Biochem*, 2000; 280: 80-86.--;
- Sinclair et al., "Altered plasma antioxidant status in subjects with Alzheimer's disease and vascular dementia," *Int J Geriatr Psychiatry*, 1998;13: 840-845.--;
- Uchida et al., "Modification of histidine residues in proteins by reaction with 4-hydroxynonenal," *Proc Natl Acad Sci USA*, 1992;89:4544-4548.--;
- Vaglini et al., "Cytochrome P450 and parkinsonism: protective role of CYP2E1," *Funct Neurol*, 2001;16: 107-112.--;
- Woods et al., "Regulation of p53 function," *Exp Cell Res*, 2001;264: 56-66.--;
- Yoritaka et al., "Immunohistochemical detection of 4-hydroxynonenal protein adducts in Parkinson disease," *Proc Natl Acad Sci USA*, 1996;93: 2696-2701.--;

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

--Zimecki et al., "Immunotropic properties of fractions isolated from human milk," *Arch Immunol Ther Exp*, 1984;32: 203-209.--;

--Zimecki et al., "The effect of a proline-rich polypeptide (PRP) on the humoral immune response. II. PRP induces differentiation of helper cells from glass-nonadherent thymocytes (NAT) and suppressor cells from glass-adherent thymocytes (GAT)," *Arch Immunol Ther Exp*, 1984;32: 197-201.--;

--Zimecki et al., "The effect of a poline-rich polypeptide (PRP) on the humoral immune response. I. Distinct effect of PRP on the T cell properties of mouse glass-nonadherent (NAT) and glass-adherent (GAT) thymocytes in thymectomized mice," *Arch Immunol Ther Exp*, 1984;32: 191-196.--.

Please replace Figure 1 with the formal drawing of Figure 1 which was filed February 20, 2001 and accepted by the Examiner in the Office Action mailed September 10, 2002.

In column 3, line 24, please delete "were treated with NGF or colostrinin," and insert --were treated with NGF or colostrum,--;

In column 4, line 54, please delete "LQTPQPLLQVMMEPQGC" and insert --LQTPQPLLQVMMEPQGD--;

In column 4, line 58, please delete "VLMKFPPPPQETVT" and insert --VLEMKFPPPPQETVT--;

In column 4, line 66, please delete "YKEMPFPKYPVEPFTESQ" and insert --HKEMPFPKYPVEPFTESQ--;

In column 25, line 26, please delete "(SEQ ID KO:3)" and insert --(SEQ ID NO:3)--;

In column 25, lines 26-27, please delete "LFFFLPVGVL" and insert --LFFFLPVVNVLP--;

In column 25, lines 29-30, please delete "LKPFPCCKVEVFPFP" and insert --LKPFPKLKVEVFPFP--;

In column 25, line 40, please delete "(SEQ ID KO:3)" and insert --(SEQ ID NO:3)--;

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A: Control  
 B: NGF (100 ng/ml)  
 C: SEQ ID NO:1 (1 micro g/ml)  
 D: SEQ ID NO:2 (1 micro g/ml)  
 D1: SEQ ID NO:2 (0.1 micro g/ml)

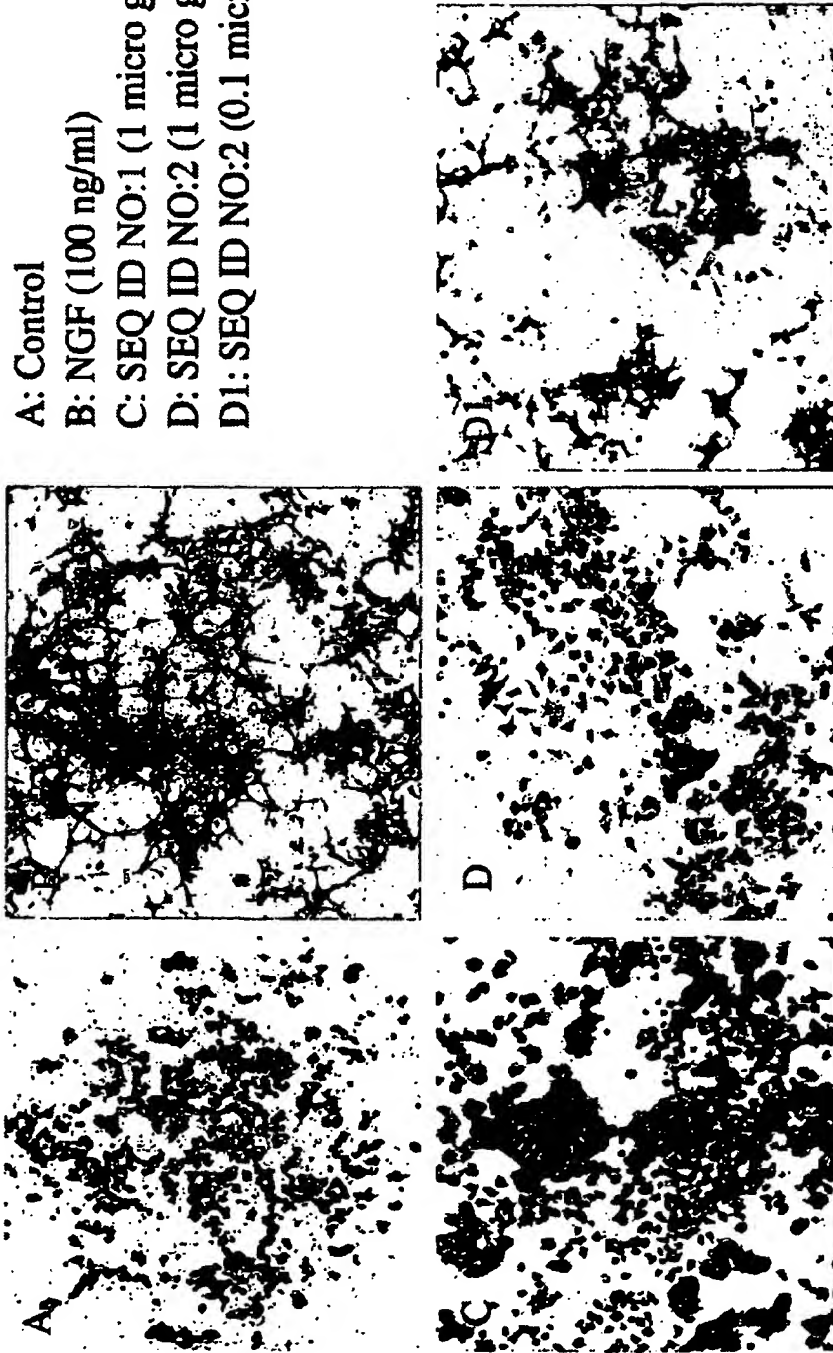


Fig. 1

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In column 25, lines 40-41, please delete "LFFFLPVGVL" and insert --LFFFLPVVNVLP--;

In column 25, lines 43-44, please delete "LKPFCKVEVFPFP" and insert --LKPFKLVVFPFP--;

In column 25, line 45, please delete "MHJQPPQLPPTVMPP" and insert --MHJQPPQLPPTVMFP--;

In column 25, line 60, please delete "LQTPQPLLQVMMEPQGC" and insert --LQTPQPLLQVMMEPQGD--;

In column 25, line 61, please delete "(SEQ ID KO:3)" and insert --(SEQ ID NO:3)--;

In column 25, line 62, please delete "LFFLPVGVL" and insert --LFFFLPVVNVLP--;

In column 25, lines 64-65, please delete "LKPFCKVEVFPFP" and insert --LKPFKLVVFPFP--;

In column 26, line 17, please delete "DQPPDVEUDLQPFQVQS" and insert --DQPPDVEKPDLPFQVQS--;

In column 26, line 20, please delete "VLEMKFPPPPQEW" and insert --VLEMKFPPPPQETV--;

In column 26, line 32, please delete "(SEQ ID KO:3)" and insert --(SEQ ID NO:3)--;

In column 26, lines 32-33, please delete "LFFFLPVGVL" and insert --LFFFLPVVNVLP--;

In column 26, lines 35-36, please delete "LKPFCKVEVFPFP" and insert --LKPFKLVVFPFP--;

In column 26, line 46, please delete "(SEQ ID KO:3)" and insert --(SEQ ID NO:3)--;

In column 26, lines 46-47, please delete "LFFFLPVGVL" and insert --LFFFLPVVNVLP--;

In column 26, lines 49-50, please delete "LKPFCKVEVFPFP" and insert --LKPFKLVVFPFP--;

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In column 26, line 62, please delete “(SEQ ID KO:3)” and insert --(SEQ ID NO:3)--;

In column 26, lines 62-63, please delete “LFFFLPVGVL” and insert  
--LFFFLPVVNVLP--;

In column 26, line 65, please delete “LKPFCKVEVFPFP” and insert  
--LKPFCKLKVEVFPFP--;

In column 27, lines 4-5, please delete “LFFFLPVGVL” and insert  
--LFFFLPVVNVLP--;

In column 27, line 20, please delete “(SEQ ID KO:3)” and insert --(SEQ ID NO:3)--;

In column 27, lines 20-21, please delete “LFFFLPVGVL” and insert  
--LFFFLPVVNVLP--;

In column 27, line 23, please delete “LKPFCKVEVFPFP” and insert  
--LKPFCKLKVEVFPFP--;

In column 27, line 34, please delete “(SEQ ID KO:3)” and insert --(SEQ ID NO:3)--;

In column 27, lines 34-35, please delete “LFFFLPVGVL” and insert  
--LFFFLPVVNVLP--;

In column 27, lines 37-38, please delete “LKPFCKVEVFPFP” and insert  
--LKPFCKLKVEVFPFP--;

In column 27, line 53, please delete “(SEQ ID KO:3)” and insert --(SEQ ID NO:3)--;

In column 27, lines 53-54, please delete “LFFFLPVGVL” and insert  
--LFFFLPVVNVLP--;

In column 27, line 54, please delete “DLEMPVLPVEFPFIFV” and insert  
--DLEMPVLPVEFPFIFV--;

In column 27, lines 56-57, please delete “LKPFCKVEVFPFP” and insert  
--LKPFCKLKVEVFPFP--;

In column 28, lines 1-2, please delete “LFFFLPVGVL” and insert  
--LFFFLPVVNVLP--;



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In column 28, line 17, please delete "(SEQ ID KO:3)" and insert --(SEQ ID NO:3)--;

In column 28, line 17-18, please delete "LFFFLPVGVL" and insert  
--LFFFLPVVNVLP--;

In column 28, line 20, please delete "LKPFPCCKVEVFPP" and insert  
--LKPFPKLKVEVFPP--;

In column 28, line 26, please delete "MIIQPPQPLPPTVMFP" and insert  
--MHQPPQPLPPTVMFP--;

In column 28, lines 34-35, please delete "LKPFPCCKVEVFPP" and insert  
--LKPFPKLKVEVFPP--;

In column 28, line 47, please delete "DQPPDVEKYDLQPFQVQS (SEQ ID KO:3)"  
and insert --DQPPDVEKPDQLQPFQVQS (SEQ ID NO:3)--;

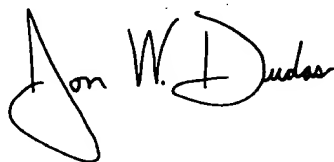
In column 28, lines 47-48, please delete "LFFFLPVGVL" and insert  
--LFFFLPVVNVLP--;

In column 28, line 50, please delete "LKPFPCCKVEVFPP" and insert  
--LKPFPKLKVEVFPP--;

In column 28, lines 56-57, please delete "LFFFLPVGVL" and insert  
--LFFFLPVVNVLP--.

Signed and Sealed this

Thirtieth Day of September, 2008



JON W. DUDAS  
*Director of the United States Patent and Trademark Office*